6

Insulin Resistance
Consequences, causes, and solutions
Dan Murphy graduated magna cum laude from Western States Chiropractic College in 1978, and has more than 34 years of practice experience. He received his Diplomat in Chiropractic Orthopedics in 1986. Since 1982, Dan Murphy has served as part-time undergraduate faculty at Life Chiropractic College West, where he is currently teaching classes to seniors in the Management of Spinal Disorders. His academic rank at the college is that of Professor.

Dan Murphy is on the post-graduate faculty of several chiropractic colleges. His post-graduate continuing education classes include “Whiplash and Spinal Trauma”, “Neuroimmunology”, “Pediatrics”, “Phospholipid Neurobiology”, “The Neurophysiology of Therapeutic Lasers”, and “Nutrition”. Dan Murphy is the coordinator of a year-long certification program (through the International Chiropractic Association) in “Chiropractic Spinal Trauma”, which is being offered in Minneapolis this year (2012). He has taught more than 1,400 post-graduate continuing education seminars, including classes in the United States, Canada, Australia, France, England, Portugal, Ireland, Italy, Greece, New Zealand, Spain, Panama, South Korea, and Peru.

Dan Murphy is a contributing author to the books Motor Vehicle Collision Injuries, published by Aspen, 1996; Pediatric Chiropractic, published by Williams & Wilkins, 1998 and 2011; and Motor Vehicle Collision Injuries, 2nd edition, Jones and Bartlett, 2005. Since 1991, Dan Murphy has written a quarterly column in the American Journal of Clinical Chiropractic, with more than 80 columns appearing to date.

In 1987, 1991 and 1995 Dan Murphy received the “Post-Graduate Educator of the Year” award, given by the International Chiropractic Association.

In 1997 he received “The Carl S. Cleveland, Jr., Educator of the Year” award, given by the International Chiropractic Association of California.

In 2001, Dan Murphy was honored by the readers of Dynamic Chiropractic as the top vote receiver for the “Our Virtual Chiropractic Association”. He was also awarded “Chiropractor of the Year” by the International Chiropractic Association of California, and “Pediatric Chiropractor of the Year” given by Chiropractic Pediatric University.

In 2003, Dan Murphy was awarded “Chiropractor of the Year” by Chiropractic Biophysics. This award is most prestigious because Chiropractic Biophysics has more chiropractic research studies published in the scientific literature than any other chiropractic group.

From 2003-2009 Dan Murphy was the Vice President of the International Chiropractic Association. He was honored to be chosen as “Chiropractor of the Year” for the International Chiropractic Association, May 2009 -2010.

Dan Murphy reviews articles regarding alternative health issues, which can be accessed through his website at www.danmurphydc.com.
“Glucose is what ages (or AGEs) us.” p. 126

Glucose (and other sugars) in the bloodstream “forms cross-links with proteins called advanced glycosylation (also known as glycation) end products (AGEs).” p. 126

“Fructose is 20-30 times more glycating than glucose.” p. 172

“Today, the number one source of dietary calories in America comes from a corn-based industrial sweetener known as high fructose corn syrup.” “The food industry uses high fructose corn syrup more than any other sweetener because it’s cheap to produce, transport and store.” p. 172

“Aging is now being understood by people researching longevity as essentially a gradual process of glycation of all tissues, including the brain.” p. 126

“The lower we maintain our blood sugar levels, the slower this process occurs and the longer and healthier we live—and the more gracefully we age.” p. 126

“Body Fat cannot be burned as long as insulin is present.” p. 139

“How much insulin we produce over the course of our lives controls how long we live! And it turns out, the less insulin we need, the better.” p. 108

“If there is a known single marker for long life, as found in the centenarian and animal studies, it is low insulin levels.” [Ron Rosedale, MD; p. 209]

“One single longevity marker stands out among all long-lived animals and people above the rest, and that’s low insulin levels.” p. 210

“Few people are aware that omega-3 fatty acids, which include ALA, EPA, and DHA, are easily the most deficient nutrient in the modern Western diet. Insufficient intake of these vital and essential dietary components is linked with virtually every modern disease process, weight problem, affective disorder, and learning disability.” p. 96
Good Calories, Bad Calories

Fats, Carbs, and the Controversial Science of Diet and Health

GARY TAUBES

2008

ANCHOR BOOKS
A DIVISION OF RANDOM HOUSE, INC.
NEW YORK
The end of overeating.

Taking Control of the Insatiable American Appetite

David A. Kessler, MD

2009
"The world has become fat in just a few decades."

"Ultimately, widespread obesity and the chronic diseases that contribute to the bulk of deaths in the world are less a result of poor individual dietary choices than the consequences of a high-tech, interconnected world in which governments and multinational corporations have extraordinary power to shape our everyday lives."

"Man ate and drank in the healthiest manner possible during the Upper Paleolithic period [beginning about 40,000 years ago], when humans were nomadic hunter-gatherers." "About 50%-80% of food came from plants and 20%-50% from animals." "People living at this time consumed no grains, and no dairy products other than breast milk."

Today, subsidies up to $50 billion per year are allocated for the production of cheap corn, soybeans, meat and poultry products. "The farmers would lose a great deal of money if they took acreage out of production to grow vegetables and fruits. Our food system was shaped so that these Iowa farmers could grow just two crops [corn and soybeans]—which produce much of the caloric sweetener and 80% of the vegetable oil used in our country. Furthermore, cheap corn, wheat, and soybeans constitute the engine that drives the beef and poultry industries—all of this a major focus of the US government."

"US soybean and corn farmers have been selling their crops for less than what it costs to produce them” and that affects the cost of chicken, pork, and beef. “Given the role of fructose corn syrup as a sweetener, this means that by extension, sweets and soft drinks have been subsidized.”

"So, on one hand, we have much cheaper beef, poultry, corn, soybeans, and sugar. But on the other, this has occurred at the expense of healthy plant foods—particularly fruits and vegetables, whose relative cost is great compared to [subsidized] fats, sugars, and meats in today's marketplaces. The results for all of us—not only American but around the globe—have been devastating."

"Today, we’re awash in highly refined sugar and grains."
“Nothing has contributed more to our weight gain than the clash between our drinking habits and our biology.” “We drink a lot of our calories, but we don’t cut our food intake as a result.” “The average American gets over 450 calories a day from beverages.”

It takes a lot of exercise to work off a piece of pie. If a piece of pie contains 500 calories, it would take 1.5 hours of running, several hours of fast biking, or an hour of the most vigorous aerobics to offset those calories. “Many of the meals at a fast-food restaurant—be it a hamburger, pizza, or taco—contain 1,000 to 2,000 calories.” “It’s much easier to cut 10 to 100 calories from one’s diet than it is to burn off the equivalent amount of calories through exercise.”

“Around the world, there has been a big change in the fats used for cooking and food processing.” “Today, the principle vegetable oils are soybean, sunflower, rapeseed, palm and peanut oil [all omega-6s].” Global vegetable oil consumption tripled from 1961 to 1990, with soybean oil being the most consumed worldwide. “Some of the newer oils are highly pathogenic [trans fats].”

“Diet, inactivity, and energy imbalance are what kill us.” “The shift to calorically sweetened beverages, larger portion sizes, more eating occasions, and the increased availability of sweeter and fattier foods—which are a result of technological and economic changes—are causing the obesity epidemic, not genes per se. Today we are eating, drinking, and moving in ways unprecedented in human history.”

“The American Dietetic Association is funded by many food companies and, I [Popkin] argue, views nutrition through the lens of the food industry.”

American schoolchildren of all ages should drink only water—without flavoring, additives, or carbonation.

“My [Popkin] favorite way to help people lose weight is to look at what they drink over the course of a typical day.” “A shift to only noncaloric beverages will do it for most of us. The top 40% of caloric beverage drinkers in the US consume over 760 calories a day from beverages.” “It would be difficult for a person to be heavy if he or she drank only water, consumed a small amount of added sugar in foods, ate lots of fruits and vegetables, and ate no fried foods. Of course, one needs also to be physically active.”

“Most well-respected nutrition researchers have stated that we should drink at most 4 ounces of fruit juice a day.” “Even when there is no added sugar, fruit juice contains as many calories as a soft drink.”

The consumption of diet sweeteners may get us to consume more calories in general.
THE
PRIMAL
BLUEPRINT

2009

MARK SISSON
THE SUGAR BARONS

Family, Corruption, Empire, and War
in the West Indies

MATTHEW PARKER

2011

Walker & Company
New York
WHEAT BELLY

LOSE THE WHEAT, LOSE THE WEIGHT,
AND FIND YOUR PATH BACK TO HEALTH

WILLIAM DAVIS, MD

2011

RODALE
WHY CALORIES COUNT
From Science to Politics

Marion Nestle and Malden Nesheim

2012

UNIVERSITY OF CALIFORNIA PRESS
Berkeley  Los Angeles  London
HEAVY!

The Surprising Reasons America Is the Land of the Free—And the Home of the Fat

2012

Springer
THE SKINNY RULES

The Simple, Nonnegotiable Principles for Getting to Thin

BOB HARPER

with Greg Critser

2012

BALLANTINE BOOKS
NEW YORK
Kick Your Fat in the Nuts

A Natural Guide to How Your Body Works and How to Work Your Body

by T.C. Hale

www.KickItInTheNuts.com

2012
the fat switch

Learn what causes obesity and simple methods to fight it

RICHARD J. JOHNSON, M.D.

2012
FAT CHANCE

Beating the Odds Against Sugar, Processed Food, Obesity, and Disease

Robert H. Lustig, M.D.

2013

Hudson Street Press
“Every good story needs a villain. While I am loath to reveal it this early in the book, I wont keep you in suspense. It's sugar—the Professor Moriarty of this story, a substance that now permeates nearly all food and drink worldwide. It's killing us ... slowly, and I'll prove it. Every statement throughout this book is based on scientific study, historical fact, or recent statistics. Pg. xii

Chapter 1
“A Fallacy of Biblical Proportion”

“Juan, a 100-pound six-year-old Latino boy whose mother is a non-English-speaking farm worker from Salinas, California, comes to my clinic in 2003. He is wider than he is tall. I ask the mother in my broken Spanish, "I don't care what your kid eats, tell me what he drinks." No soda, but a gallon of orange juice per day.”

“I explain to the mother ... “the fruit is good the juice is bad. Eat the fruit, don't drink the juice.” She asks, “Then why does WIC [Women, Infants, and Children, a government entitlement program for the poor run by the U.S. Department of Agriculture] give it to us?”

“There is no energy storage without insulin—it is the key that unlocks the door to the fat cell to let energy enter and subsequently be stored as fat. Insulin makes fat—the more insulin, the more fat. And there it sits...and sits...as long as there is insulin around. When insulin levels drop, the process goes in reverse: triglycerides get broken down, causing the fat cell to shrink—when it happens, that’s weight loss.” Pg. 35

“Leptin resistance. This is the key to the obesity epidemic.” Deciphering leptin resistance is the ‘holy grail’ of obesity.” ... “obese people are not leptin deficient but rather leptin resistant. Their hypothalami can't see their leptin, so their brains think they’re starving, and will therefore try to increase energy storage (gluttony) and conserve energy (sloth).” Pg. 41

“That’s what obesity is: leptin resistance.” Pg. 52

“There is no fat accumulation without insulin. Insulin shunts sugar to fat. It makes your fat cells grow. The more insulin, the more fat, period.” Pg. 82
“It’s because of insulin that weight loss is so difficult. Virtually every aspect of our modern society drives insulin levels higher and higher.” Pg. 83

Chapter 11
Fructose—The “Toxin”
The Fructose Epidemic

“Every successful diet in history restricts sugar. Sugar is, bar none, the most successful food additive known to [hu]man. When the food industry adds it for ‘palatability,’ we buy more. And because it’s cheap, some version appears in virtually processed foodstuff now manufactured in the world. Sugar, and specifically fructose, is the Lex Luther of this story.” Pgs.117-118

“The fruit is good for you because it also contains fiber. In fact, calorie for calorie, 100 percent orange juice is worse for you than soda, because the orange juice contains 18 grams of fructose per ounce, while the soda contains 1.7 grams of fructose per once.” Pg. 119
GRAIN BRAIN

The Surprising Truth About Wheat, Carbs, and Sugar—Your Brain’s Silent Killers

DAVID PERLMUTTER, MD
WITH KRISTIN LOBERG

2013

LITTLE, BROWN AND COMPANY
New York  Boston  London
One is Insulin Resistance When

- Waist Circumference is BIGGER than Butt Circumference
  - A 1:1 ratio is the upper limit
  - A ratio of 0.8 is optimal for men
  - A ratio of 0.7 is optimal for women
- Fasting Glucose > 95 mg/dL
- Hgb-A1c > 6%
  [ideal range 4.8-5.4]
- Fasting Insulin > 3 [range 2-5]
  definitely > 8
  [units are mcg IU/mL]
Consequences

- Obesity
- Pre-diabetic, and eventually diabetes
- Hypertension
- Artery Disease
- Cancer
- Arthritis
- Pain
- Alzheimer’s and other Neurodegenerative Diseases
- Autism
Causes

Sugar

Fructose

Refined Carbohydrates

Foods with High Glycemic Index/Load

Trans Fatty Acids

Decreased Omega 3’s

Wheat (Amylopectin A)

Ceramides (toxic fats that cause insulin resistance)

- **Alcohol** causes liver inflammation; liver inflammation causes ceramide production; ceramides cross the blood-brain barrier and damage brain cells, primarily through insulin resistance.

- **Nitrosamines** (nitrites, nitrates) produce ceramides that cross the blood-brain barrier causing insulin resistance in the brain.
  “Chronic exposure to nitrogen fertilizers, nitrates in water used to irrigate crops” ... “contribute to the process of neurodegeneration.”
  “Many beers and some hard liquors are made with a process involving nitrosamines.”

“A great many people in the US consume foods at with nitrosamines compounds at virtually every meal, and this may begin in infancy.” (Newport, 2011)
Solutions

• Specific To the Cause:
  Stop Sugar, Refined Carbs, Wheat, etc.

• Gluco-D from Nutri-West
  2-3 per meal

• Balance Omega-6 / Omega-3

• Cinnamon

• Chromium: minimum of 200 mcg/day

• No Trans Fatty Acids

• Exercise

• Alternative Sources of ATP
  
  • • Ketoacidosis:
    80% fat, 10% protein, 10% carb

  • • Medium Chain Saturated
    Triglycerides
    Coconut Oil (57-60%) 1 TBS/meal

• Stop Ceramides
  • • Alcohol
  • • Nitrosamines (nitrites, nitrates, anything with
      white flour, processed cheese, bacon, lunch meat)
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ALZHEIMER'S DISEASE
What If There Was a Cure?
The Story of Ketones
MARY T. NEWPORT, M.D.
2011
Alzheimer’s Prevention Protocol

Balance omega-6/omega-3 ratio (1.5 – 4 /1)

Take antioxidant vitamin/mineral supplements (watch the iron and copper)

Take curcumin/resveratrol

Elevate glutathione

Detoxify

Low Level Laser Therapy (dual head, 5 mW, 4-9-33-60)

• 1 minute prefrontal cortex
• 1 minute cerebellum
• 1 minute occipital visual cortex
• 1 minute temporal cortex
• 1 minute at frontal/parietal junction

Avoid brain trauma

Exercise

Do not smoke

Minimize television

Do crossword puzzles

Medium Chain Saturated Triglycerides (coconut oil, 1 tbs./meal)

Dr. Dan Murphy DC 2013   www.danmurphydc.com
Holman Omega 3 Test
New Lab for AA/EPA
$70
Email info@lipidlab.com and you must mention Dan Murphy’s name. They will give you 3 free.

Labrix Clinical Services, Inc
619 Madison St
Oregon City, OR 97045-2354
877-656-9596
www.labrix.com
Saliva Test Kit for Hormones

US BioTek
13500 Linden Ave North
Seattle, WA 98133
877-318-8728
www.usbiotek.com
Food Allergy Testing

ZRT Laboratory
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Beaverton OR 97008
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Vitamin D Testing Finger prick
Dan Murphy, DC

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Featuring on-trend, up-to-date topics
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- Whiplash
- Kids & Chiropractic
- Posture & Neurology
- Laser Therapy

**Disc 3**
- Pain Medications
- Fish Oils & Omega 3’s
- Excitotoxins

**Disc 4**
- Interview with Dr. Michael Underhill
  - Environment and Toxins
  - Fibrosis of Repair
  - The Sunshine Vitamin: D3

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Zip: [Type here]

Credit Card #: [Type here]
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Representative: [Type here]

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Did You Know?

- Spinal stiffness was linked to visceral pathology with nearly 100% accuracy based upon sympathetic innervation. (*Medical Times*, 1921)
- 1,000 capsules of Tylenol in a lifetime doubles the risk of end stage renal disease. (*New England Journal of Medicine*, 1994)
- The average time for a whiplash-injured patient to achieve maximum improvement is 7 months 1 week. (*Spine*, 1994)
- 93% of patients with chronic whiplash pain who have failed medical and physical therapy care improve with chiropractic adjustments. (*Injury*, 1996)
- Taking the correct drug for the correct diagnoses in the correct dose will kill about 106,000 Americans per year, making it the 4th most common cause of death in the US. (*Journal of the American Medical Association*, 1998)
- Nonsteroidal anti-inflammatory drugs for rheumatoid and/or osteoarthritis conservatively cause 16,500 Americans to bleed to death each year, making that the 15th most common cause of death in the US. (*New England Journal of Medicine*, 1999)
- Glutamate and aspartame can cause chronic pain sensitization, and removing them from the diet for 4 consecutive months can eliminate all chronic pain symptoms. (*Annals of Pharmacotherapy*, 2002)
- Chiropractic spinal adjusting has been shown to be better than 5 times more effective than the NSAIDs pain drugs Celebrex and Vioxx in the treatment of chronic neck and low back pain. (*Spine*, 2003)
- In patients suffering from chronic pain subsequent to degenerative spinal disease, 59% can eliminate the need for pain drugs by consuming adequate levels of omega-3 essential fatty acids. (*Surgical Neurology*, 2006)
- Chiropractic adjustments have been shown to significantly lower blood pressure. (*Journal of Human Hypertension*, 2007)
- The estimated incidence of chronic pain from whiplash trauma is 15-40%. (*Jour of the Am Academy of Ortho Surg*, 2007)
- Meniere’s Disease has been linked to a disorder of the upper cervical spine facet joints. (*International Tinnitus Jour*, 2007)
- Supplementing with vitamin D3 has the potential to reduce cancer deaths in America by 75%. (*Ann of Epidemiology*, 2009)
- Potentially, the largest exposure of Americans to the neurotoxin mercury is through the consumption of products containing High Fructose Corn Syrup. (*Environmental Health*, 2009)
- Those who consumed the highest amounts of nonsteroidal anti-inflammatory pain drugs increased their risk of dementia, including Alzheimer's dementia, by 66%. (*Neurology*, 2009)
- The newest estimate for the incidence of autism is 1 in 91 US children. (*Pediatrics*, 2009)

These published facts and hundreds more are available through my Article Review Service, now in its 11th year. Reviews are detailed, thorough, timely and cutting-edge, with KEY POINTS summary and chiropractic practical applications. The Reviews are in PDF format for easy printing. They are excellent for educating the chiropractor, staff, patients and for lecture preparation. Easy sign-up through the website with a credit card using PayPal. $100.00 per year. The Archives (past years) are also available.

Website: www.danmurphydc.com
Assistant: Phyllis (925) 420-6564

SUBSCRIBER COMMENTS

Dr. Dan,
Any chiropractor that truly cares about his patients and not about just making a buck needs to be subscribing to your Article Review Updates. I certainly am going to do my part to see that each chiro I come in contact with knows what an absolutely invaluable resource it is. I sat in amazement at the last two articles you sent regarding antibiotic overuse and atopic disorders. What crucial information to pass on to my practice members. Thanks and keep up the awesome work. Dr. G.M.; August 1, 2002

Dear Dan,
I hope you can continue providing this information for many years to come. I have been in practice for 18 years and find these citations to be the most informative, chiropractically relevant information that I have received in my career. I would be willing to pay more for this information to make sure that it keeps coming. Again, thank you!! JR, DC; January 8, 2005